INVASIVE SPECIES CONTROL PROJECTS (R1 SMALL GRANTS)
FY 2013 FINAL REPORT

Project Title: Brown Treesnake Eradication within 125-acre Enclosure

Station: Guam National Wildlife Refuge

Contact Person: Jennifer Cruce

Project Description:
In 2004, the United States Fish and Wildlife Service (USFWS) designated the Guam National Wildlife Refuge as critical habitat for three species: the Mariana fruit bat (*Pteropus mariannus mariannus*), Micronesian Kingfisher (*Halcyon cinnamomina cinnamomina*), and the Mariana Crow (*Corvus kubaryi*), which have been extirpated from Guam primarily due to predation by the Brown Treesnake (*Boiga irregularis*, or BTS). In 2012 a multi-species barrier fence was constructed encompassing 51 ha; this fence includes a one-way barrier designed to exclude BTS from the refuge while allowing snakes on the refuge to leave the enclosed area. As currently deployed, the fence impedes ingress of snakes. The enclosed portions of the refuge are intended to be used for the recovery of native Guam wildlife. The focus of this trapping effort was to begin removing snakes from within the fenced area to assess the feasibility of localized snake suppression. We placed 100 snake traps along three transects, and checked traps weekly. Trapping commenced in February 2013 and concluded in August 2013. We euthanized all captured BTS and recorded size, sex, and ingested prey items. Preliminary results indicate a strong trap decay rate in BTS trap captures over time. The positive relationship between body size and trap capture probability established by this and previous studies on BTS indicates that repeated treatment application would be necessary to suppress snakes as they grow into targetable size classes.

Invasive Species Targeted: Brown treesnake (*Boiga irregularis*)

Project Completion Date or Estimated Completion Date: September 2013

Project Results:
Trapping on the refuge commenced on 10 February and concluded 7 August 2013. After a total of 15,447 trap nights we captured 392 snakes: 174 males, 184 females, and 34 snakes that were captured but did not have morphological or sexual data recorded. The mean SVL for females was 963 mm (min 698; max 1252) and for males was 971 mm (min 742; max 1192). Mean weights for females and males were 79 g and 82.3 g, respectively. Follicles were not detected in any captured females. Snakes exhibiting tail breaks totaled 29 or 0.081% of all captures that were hand processed. Captures on all 3 transects showed a rapid decline in total captures within the 1st month of trapping. See attached poster.

Number of Acres Treated: 125

Number of Acres Inventoried and/or Mapped: approximately 100

Number of Acres Restored: BTS are still present within the fenced enclosure. Continuous trapping is necessary to capture snakes as they grow into a targetable size class.

Total Grant Amount: $45,842.00

Breakdown of Expenditures:

Category	**Total $ Spent**	**% of Total Grant**
Equipment/Supplies	$4,548.05	10%
Biotech/Employee Salary	$38,615.47	84%
TOTAL	$43,163.52	94%